

REMARKS

All of the claims, which were rejected in the above-identified Office Action, have now been cancelled and replaced by new Claims 30-36. Those new claims, as expressed in the sole independent Claim 30, relate to a color image pickup device, formed on a single semiconductor chip. The device has a pickup element having a two-dimensional array of photodetectors each having its own color filter, reading means for randomly accessing and reading the photodetectors, wherein image data is read out from basic block units formed by at least a two-by-two array of photodetectors, and block storage means for storing the read data. Significantly, the stored data is taken from a target block unit of detectors, and from neighboring block units. Also, Claim 30 requires interpolation means to interpolate an output for each of the target photodetectors.

This construction of the claimed invention is disclosed in the application, for example, in Fig. 4, and the basic block units of photodetectors are depicted in Fig. 5, wherein a basic block unit D is shown as comprising a two-by-two array of photodetectors R, G, G, and B, and wherein a target basic block unit is shown as F, surrounded by neighboring basic block units A-C, E, G, and I-K.

According to this claimed construction of the present invention, since the image data is read out from the image pickup element on a basic block unit basis, to store the image data of the basic blocks required for interpolation into a block memory, interpolated color image data of a desired portion of an image area can be obtained. In addition, since the image pickup element is randomly accessible and can be formed by a

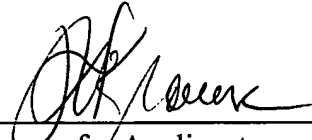
CMOS process differently from a CCD which is not randomly accessible, it can be formed on a single semiconductor chip together with other circuit means, such as the block storage means and the interpolation means, thereby presenting a one-chip image pickup apparatus which can attain color signal interpolation processing of a desired image portion.

Applicants respectfully submit that the invention of new Claim 30 is not disclosed by any combination of the references cited in the Office Action. In particular, the cited Chen patent, which was the principal rejecting reference, discloses a two-dimensional MOS sensor (Fig. 1) which is arranged to read out, in parallel, image signals of different colors via color signal output lines 57-59. However, Chen fails to disclose the block storage means and the interpolation means, functioning together with the randomly-accessible image pickup element as required in new independent Claim 30. In addition, Chen fails to disclose the claimed pickup element, the block storage means, and the interpolation means on a single semiconductor chip. Similarly, the cited Miyawaki patent does not disclose Applicants' claimed block storage means and interpolation means functioning together with the image pickup element as recited in the new independent Claim 30. The other cited references, namely, Elabd, Asano and Hashimoto, also fail to disclose this claimed structure.

For all these various reasons it is believed that the application is now in condition for allowance and the issuance of a formal Notice of Allowance is solicited.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



Attorney for Applicants

John A. Krause

Registration No. 24,613

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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